UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

Mr. Mark R. Dahl
Office of Space Science (Code SD)
NASA Headquarters
Washington, DC 20546-001

Dear Mr. Dahl:

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the Environmental Protection Agency (EPA) has reviewed the National Aeronautics and Space Administration's (NASA) Final Supplemental Environmental Impact Statement for the Cassini Mission.

EPA's remaining concern is NASA's application of 1990 EPA cleanup guidance that was used to determine the amount of PuO_2 that would be released during a prelaunch accident (see page 2-20). This guidance, which was taken from Transuranium Elements, Volume 2, Technical Basis for Remedial Actions, is now considered out of date. For an accident involving the destruction and disintegration of the Cassini spacecraft, the appropriate guidance for cleaning up radiological contamination can be found in the following two documents; (1) Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions (OSWER Directive 9355.0-30, April 22, 1991 and (2) Radiation Site Cleanup Regulations; Technical support Document for the Development of Radionuclide Cleanup levels for Soil (draft EPA 402-R-96-001 A, September 1994)(EPA 402).

The EPA policy for remediating contaminated areas is such that cleanups should generally achieve risk levels in the 10^{-4} to 10^{-6} range with a preference for cleanups achieving the more protective end of the risk range (i.e., 10^{-6}). This risk is the carcinogenic risk range for the reasonable maximally exposed individual and should address exposures from all potential pathways, and through all media (e.g., soil, groundwater, surface water, sediment, air, structures, biota). A specific risk estimate around 10^{-4} may be considered acceptable if justified on site-specific conditions. EPA 402 provides an acceptable methodology for implementing the OSWER directive. Together, EPA 402 and OSWER Directive 9355.0-30 provide EPA's overall guidance

on how to estimate the appropriate cleanup level that meets this risk range for a radioactive contaminant. We recommend that NASA utilize the guidance contained in these two documents to estimate the area of land that may need cleaning up following an accident involving the Cassini spacecraft.

Thank you for the opportunity to review this document. The staff contact for this review is Pat Haman. Ms. Haman can be reached at 202-564-7152.

Sincerely,

Richard E. Sanderson
Director
Office of Federal Activities